

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
22 January 2004 (22.01.2004)

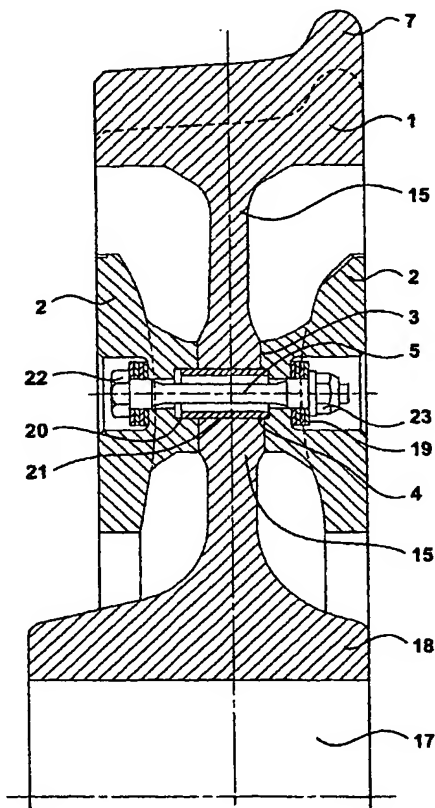
PCT

(10) International Publication Number
WO 2004/007217 A2

- (51) International Patent Classification⁷: **B60B** [DE/DE]; Ennestweg 7, 57399 Kirchhundem (DE).
DORNER, Heinz, Dieter [DE/DE]; Auf Dem Berg 36, 57647 Nistertal (DE).
- (21) International Application Number: PCT/IB2003/003816
- (22) International Filing Date: 16 July 2003 (16.07.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 0216624.7 17 July 2002 (17.07.2002) GB
- (71) Applicant (for all designated States except US): **BOMBARDIER TRANSPORTATION GMBH** [DE/DE]; Saatwomkler Da., 43, 13627 Berlin (DE).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **BIEKER, Guido**
- (74) Agents: **AKERS, Noel, James** et al.; Howrey Simon Arnold & White, CityPoint, One Ropemaker Street, London, EC2Y 9HS (GB).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

[Continued on next page]

(54) Title: REDUCTION OF TORSIONAL VIBRATION IN RAIL VEHICLE WHEEL SETS



(57) **Abstract:** In order to reduce torsional vibrations and wheel slip in a wheel set for a rail vehicle the wheel set comprising a pair of wheels connected by an axle is provided with a vibration absorbing device comprising a mass, resiliently mounted on the wheel set and adapted to oscillate at the resonant frequency of torsional vibrations of the wheel/axle system. A method of preventing or reducing torsional vibrations in a wheel set of a rail vehicle is also disclosed, the method comprising determining the resonant frequency of torsional vibrations of the wheel/axle system and resiliently mounting a vibration absorbing device in the form of a mass, on the wheel set, the mass and its resilient mounting being selected to oscillate at or near that resonant frequency.